

Appl. No. : 09/847,598
Filed : May 2, 2001

AMENDMENTS TO THE CLAIMS

1.-4. (Cancelled)

5. **(Previously Presented)** A floor mopping assembly, comprising:

- a first roller configured to let out a web mounted on a roll;
- a second roller configured to reel in the web;
- a motor system configured to cause transfer of the web between the first roller and the second roller;
- a pad configured to press the web against a surface; and
- a housing to enclose the motor system, the first roller, the second roller and the pad, wherein the motor system, the first and second rollers, and the pad are mounted in the housing such that the motor causes transfer of the web between the first and second rollers and between the pad and the surface, and
- wherein the housing is part of an autonomous cleaning robot, and wherein the autonomous cleaning robot offloads the web after it has been soiled.

6. **(Previously Presented)** A floor mopping assembly, comprising:

- a first roller configured to let out a web mounted on a roll;
- a second roller configured to reel in the web;
- a motor system configured to cause transfer of the web between the first roller and the second roller;
- a pad configured to press the web against a surface, wherein the pad is compliant and non-absorbent; and
- a housing to enclose the motor system, the first roller, the second roller and the pad, wherein the motor system, the first and second rollers, and the pad are mounted in the housing such that the motor causes transfer of the web between the first and second rollers and between the pad and the surface, and
- wherein the floor mopping assembly automatically loads or offloads a length of the web.

Appl. No. : 09/847,598
Filed : May 2, 2001

7.-8. (Cancelled)

9. (Previously Presented) A floor mopping assembly, comprising:
a first roller configured to let out a web mounted on a roll, wherein the roll of web
is encased in a watertight compartment;
a second roller configured to reel in the web;
a motor system configured to cause transfer of the web between the first roller and
the second roller;
a pad configured to press the web against a surface; and
a housing to enclose the motor system, the first roller and its watertight
compartment, the second roller, and the pad, wherein the motor system, the first and
second rollers, and the pad are mounted in the housing such that the motor causes transfer
of the web between the first and second rollers and between the pad and the surface.

10.-11. (Cancelled)

12. (Previously Presented) A floor mopping assembly, comprising:
a first roller configured to let out a web mounted on a roll, wherein the roll of web
is encased in a disposable assembly;
a second roller configured to reel in the web;
a motor system configured to cause transfer of the web between the first roller and
the second roller;
a pad configured to press the web against a surface; and
a housing to enclose the motor system, the first roller, the second roller and the
pad, wherein the motor system, the first and second rollers, and the pad are mounted in
the housing such that the motor causes transfer of the web between the first and second
rollers and between the pad and the surface.

13.-16. (Cancelled)

17. (Previously Presented) A floor mopping assembly, comprising:

Appl. No. : 09/847,598
Filed : May 2, 2001

a computerized mobile chassis;
a first roller configured to let out a roll of moistened webbing, wherein the roll of webbing is encased in a watertight compartment;
a second roller configured to reel in the webbing; and
a motor system configured to cause transfer of the webbing between the first roller and the second roller, wherein the motor system, the first roller and its watertight compartment, and the second roller are conveyed by the chassis.

18. **(Previously Presented)** A floor mopping assembly, comprising:
a computerized mobile chassis;
a first roller configured to let out a roll of webbing, wherein the roll of webbing is encased in a disposable assembly;
a second roller configured to reel in the webbing; and
a motor system configured to cause transfer of the webbing between the first roller and the second roller, wherein the motor system and the first and second rollers are conveyed by the chassis.

19.-22. **(Cancelled)**

23. **(Previously Presented)** A method of mopping a surface with a floor mopping device, the method comprising:

- a) connecting a roll of webbing on a feed roller to a take-up roller;
- b) moving the floor mopping device without human intervention;
- c) pressing on a portion of the webbing such that the webbing cleans the surface; and
- d) transferring the portion of the webbing to the take-up roller, wherein the transferring includes determining when the webbing is soiled.

24. **(Previously Presented)** A method of mopping a surface with a floor mopping device, the method comprising:

- a) connecting a roll of webbing on a feed roller to a take-up roller;
- b) moving the floor mopping device without human intervention;

Appl. No. : 09/847,598
Filed : May 2, 2001

- c) pressing on a portion of the webbing such that the webbing cleans a surface; and
- d) transferring the portion of the webbing to the take-up roller, wherein the transferring includes determining when the mopping device has cleaned a predetermined area of the surface.

25.-27. (Cancelled)

28. **(Previously Presented)** A floor mopping system, comprising:

- a floor mopping assembly, comprising:
 - a first roller configured to let out a web mounted on a roll;
 - a second roller configured to reel in the web;
 - a motor system configured to cause transfer of the web between the first roller and the second roller;
 - a pad configured to press the web against a surface; and
 - a housing to enclose the motor system, the first roller, the second roller and the pad, wherein the motor system, the first and second rollers, and the pad are mounted in the housing such that the motor causes transfer of the web between the first and second rollers and between the pad and the surface; and
 - a master controller separately housed from the floor mopping assembly, in data communication with the floor mopping assembly, and configured to control the floor mopping assembly, wherein the master controller is an autonomous mobile robot.

29. **(Previously Presented)** The system of Claim 28, wherein the housing is part of a cleaning robot.

30. **(Previously Presented)** The system of Claim 28, wherein the master controller includes sensors.

31. **(Previously Presented)** The system of Claim 28, wherein the master controller directs movement of the floor mopping assembly.

Appl. No. : 09/847,598
Filed : May 2, 2001

32. (Cancelled)

33. (Previously Presented) The system of Claim 28, wherein the master controller is a stationary computer.

34. (Previously Presented) The system of Claim 28, wherein the system includes one or more additional floor mopping assemblies controlled by the master controller.

35. (Previously Presented) The system of Claim 28, wherein the pad is closed-cell foam or self-skinning open-cell foam.

36. (Previously Presented) The system of Claim 28, wherein a portion of the roll of web is moistened prior to being pulled by the motor driven roller.

37. (Previously Presented) The system of Claim 28, wherein the web comprises a paper-based material.

38. (Previously Presented) The system of Claim 28, wherein the web comprises a cloth-based material.

39. (Previously Presented) A floor mopping system, comprising:
a floor mopping assembly, comprising:
 a computerized mobile chassis;
 a first roller configured to let out a roll of webbing;
 a second roller configured to reel in the webbing; and
 a motor system configured to cause transfer of the webbing between the first roller and the second roller, wherein the motor system and the first and second rollers are conveyed by the chassis; and

Appl. No. : 09/847,598
Filed : May 2, 2001

a master controller separately housed from the floor mopping assembly, in data communication with the floor mopping assembly, and configured to control the floor mopping assembly, wherein the master controller is an autonomous mobile robot.

40. **(Cancelled)**

41. **(Previously Presented)** The system of Claim 39, wherein the master controller includes sensors.

42. **(Previously Presented)** The system of Claim 39, wherein the master controller directs movement of the floor mopping assembly.

43. **(Cancelled)**

44. **(Previously Presented)** The system of Claim 39, wherein the master controller is a stationary computer.

45. **(Previously Presented)** The system of Claim 39, wherein the system includes one or more additional floor mopping assemblies controlled by the master controller.

46. **(Previously Presented)** The system of Claim 39, wherein the chassis includes at least one drive motor configured to provide mobility.

47. **(Previously Presented)** The system of Claim 39, wherein the chassis includes a processor configured to control the motor system.

48. **(Previously Presented)** A floor mopping system, comprising:
means for floor mopping, comprising:
a computerized mobile chassis;
first means for letting out a portion of webbing;
second means for taking up the webbing; and

Appl. No. : 09/847,598
Filed : May 2, 2001

motor means for causing transfer of the webbing between the first means and the second means; and

control means, separately housed from the means for floor mopping, and in communication with the means for floor mopping, for controlling the means for floor mopping, wherein the control means is configured to autonomously navigate through an environment.

49. **(Currently Amended)** A method of mopping a surface with a floor mopping device, the method comprising:

a) connecting a roll of webbing on a feed roller to a take-up roller;
b) transmitting control signals from an autonomous master controller to the floor mopping device, wherein the autonomous master controller comprises one or more navigation sensors;

c) moving the floor mopping device based on the control signals;
d) sensing the movement of the floor mopping device using the navigation sensors thereby tracking the location of the floor mopping device;
e) pressing on a portion of the webbing such that the webbing cleans a surface;
and
f) transferring the portion of the webbing to the take-up roller.

50. **(Previously Presented)** The method of Claim 49, additionally comprising repeating b)-e) whereby an entire floor surface is mopped clean.

51. **(Previously Presented)** The method of Claim 49, wherein the transferring includes moving the webbing via a motor system.

52.-53. **(Cancelled)**

54. **(Previously Presented)** The method of Claim 49, additionally comprising moistening a predetermined amount of the webbing prior to the pressing.

Appl. No. : 09/847,598
Filed : May 2, 2001

55. **(Previously Presented)** The method of Claim 54, wherein the moistening comprises applying a cleaning agent to the webbing.

56. **(Previously Presented)** The method of Claim 54, wherein the moistening comprises applying a wax to the webbing, such that the surface is waxed.

57. **(Previously Presented)** A floor mopping system, comprising:
a floor mopping assembly, comprising:
a computerized mobile chassis;
a first roller configured to let out a roll of webbing;
a second roller configured to reel in the webbing;
a motor system configured to cause transfer of the webbing between the first roller and the second roller, wherein the motor system and the first and second rollers are conveyed by the chassis; and
a housing to enclose the chassis, the motor system, the first roller and the second roller, wherein the motor system, and the first and second rollers, are mounted such that the motor causes transfer of the webbing between the first and second rollers and one of the rollers is configured to rest on a surface; and
a master controller separately housed from the floor mopping assembly, in data communication with the floor mopping assembly, and configured to control the floor mopping assembly.

58. **(Previously Presented)** A method of mopping a surface with a floor mopping device, the method comprising:

- a) connecting a roll of webbing on a feed roller to a take-up roller;
- b) transmitting control signals from an autonomous master controller to the floor mopping device;
- c) moving the floor mopping device based on the control signals;
- d) pressing on a portion of the webbing such that the webbing cleans a surface; and

Appl. No. : 09/847,598
Filed : May 2, 2001

e) transferring the portion of the webbing to the take-up roller, wherein the transferring includes determining when the webbing is soiled..

59. **(Previously Presented)** A method of mopping a surface with a floor mopping device, the method comprising:

- a) connecting a roll of webbing on a feed roller to a take-up roller;
- b) transmitting control signals from an autonomous master controller to the floor mopping device;
- c) moving the floor mopping device based on the control signals;
- d) pressing on a portion of the webbing such that the webbing cleans a surface; and
- e) transferring the portion of the webbing to the take-up roller, wherein the transferring includes determining when the mopping device has cleaned a predetermined area of the surface.

60. **(Previously Presented)** The assembly of Claim 17, wherein the second roller is not in the watertight compartment.

61. **(Previously Presented)** The assembly of Claim 17, wherein the watertight compartment has a seal around an opening of the compartment, such that the webbing remains moistened between uses.

Appl. No. : 09/847,598
Filed : May 2, 2001

SUMMARY OF INTERVIEW

A telephonic interview was conducted on October 29, 2003 with Examiner Patrick Miller.

Identification of Claims Discussed

Claims 17 and 49 were discussed.

Identification of Prior Art Discussed

The Bierma et al. reference was discussed in view of Claim 17. The Nakanishi et al. reference was discussed in view of Claim 49.

Proposed Amendments

It was proposed to amend Claim 49 by adding the text “, wherein the autonomous master controller comprises one or more navigation sensors” at the end of element b), and to add the text “using the navigation sensors” after the first instance of “device” in element d).

Principal Arguments and Other Matters

Regarding Claim 17, it was discussed that the wet cleaning described by Bierma et al. on page 3 of the specification utilizes a dry cloth initially. The specification at page 3, lines 30-31 recites that the wet cleaning “starts from a dry cloth impregnated with the cleaning agent and/or the maintenance product, the water necessary being dosed from a water tank.” This is in direct contrast to Applicant’s second element of Claim 17 that recites “a first roller configured to let out a roll of moistened webbing, wherein the roll of webbing is encased in a watertight compartment”.

Regarding Claim 49, it was discussed that the Nakanishi et al. reference does not describe that the autonomous master controller comprises one or more navigation sensors as claimed by Applicant. It was also discussed that the Nakanishi et al. reference does not describe sensing the movement of the floor mopping device using the navigation sensors thereby tracking the location of the floor mopping device as claimed by Applicant.

Appl. No. : 09/847,598
Filed : May 2, 2001

Results of Interview

Agreement was reached with the Examiner that the rejection of Claim 17 over the cited art has been overcome. Agreement was also reached that the proposed claim amendments for Claim 49 overcome the cited art.